REMARKS

Favorable reconsideration of this application, in light of the following discussion and in view of the present amendment, is respectfully requested.

Claims 1, 4, 7, 11 and 16 are amended. Claims 1-16 are pending.

I. Rejection under 35 U.S.C. § 112

In the Office Action, at page 2, claims 1-16 were rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement.

Claim 11 is amended in accordance with the Examiner's comments. Further, claim 11 is amended to comport with a definition of a host being included in a computer system, as discussed at paragraph 0003 of the present specification. The Applicants respectfully submit that the discussion with respect to paragraph 0003 was not a typo and that paragraph 0003 discusses that "computer systems include a host and a display device." Thus, claim 11 has been amended to clarify that the host is of a computer system. Therefore, withdrawal of the §112, first paragraph, rejection is respectfully requested.

II. Rejection under 35 U.S.C. § 103

In the Office Action, at page 3, claims 1-16 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,644,325 to King et al in view of U.S. Patent No. 5,809,355 to Yamakawa et al. This rejection is respectfully traversed because the combination of the teachings of King and Yamakawa does not suggest:

> receiving an R,G,B signal including a video signal, a horizontal synchronization signal and a vertical synchronization signal from a host of the computer system;
>
> selecting one of an R, a G, or a B component of the R,G,B signal including the video signal as a selected one R,G, or B component and setting a region of the selected one R,G, or B component as a checked region which is checked;
>
> detecting a minimum pixel level value in the checked region;
>
> comparing the minimum pixel level value for the selected one R,G, or B component with a predetermined threshold value to determine whether an abnormal R,G, or B component is present, the abnormal R,G, or B component being a component abnormally input due to malfunction of the host; and
>
> displaying on a screen a message indicating whether the selected one R,G, or B component includes a video signal abnormally input

due to the malfunction of the host,

as recited in amended independent claim 1.

The Examiner indicates that King discusses "receiving an R,G,B signal including a video signal from a host of the computer system; [and] selecting one of an R, a G, or a B component of the R,G,B signal including the video signal as a selected one R,G, or B component and setting a region of the selected one R,G, or B component as a checked region which is checked." The Applicants respectfully disagree.

King discusses comparing an analog color signal on lines 72 with a narrow color key range to determine whether the analog color signal is within the color key range. However, King does not discuss or suggest selecting one of an R, G or B component of an RGB signal and setting a region of the selected R, G or B component as a checked region which is checked. King particularly discusses at col. 8, lines 10-36 that maximum and minimum analog RGB color key values are compared with red, green and blue analog values on lines 97, 98 and 99, respectively (lines 97, 98 and 99 all being included in the RGB lines 72), and if the analog signals on lines 97, 98 and 99 are all simultaneously within the ranges of the red, green and blue color keys stored in registers 90-95, a high signal will appear on lines 102, 103 and 104. Thus, while King appears to discuss that an R, G or B component of an RGB signal is selected and compared with red, green and blue analog values in order to determine whether the analog color signal on lines 72 is within a narrow color key range, King does not discuss or suggest that **a region** of a selected R, G or B component is set as a region to be checked. In fact, the R, G or B component itself of the RGB signal is compared with red, green or blue values to determine whether the signal is within the color range (of red, green or blue color values). However, King does not discuss or suggest that a region of the color **component** is set as a checked region.

Here, the "region" that the Examiner alleges is the region of the selected R, G or B component of the RGB signal is actually the reference color key range to which the RGB color signal component is measured against. The "color key range" is provided to the analog comparator 76 to determine whether the analog color signal is within the preselected range. The "color key range" is the range that is compared with the RGB color signal. Thus, the color key range cannot be construed to correspond with a region of a component of the received RGB signal. If such were the case, the RGB color signal would be compared with itself.

Further, King discusses that the analog comparator 76 detects whether there is a match between the preselected color key value and an RGB color signal (or alternatively a color key range and the RGB color signal). Therefore, the color key value (or color key range) that is

preselected cannot be construed to correspond with a region of a R, G or B component **of the received RGB signal**.

In addition, the Examiner concedes that King does not discuss or suggest "detecting a minimum pixel level value in the checked region; comparing the minimum pixel level value for the selected one R,G, or B component with a predetermined threshold value to determine whether an abnormal R,G, or B component is present, the abnormal R,G, or B component being a component abnormally input due to malfunction of the host; and displaying on a screen a message indicating whether the selected one R,G, or B component includes a video signal abnormally input due to the malfunction of the host," but indicates that Yamakawa makes up for the deficiencies in King. The Applicants respectfully disagree.

First, Yamakawa is directed to a method and system of adjusting or calibrating the colors output by an image processing system such as a copier. Yamakawa does not discuss or suggest that a video signal is analyzed which comes from a host of a computer system. Yamakawa discusses a copier, but does not discuss or suggest that the copier receives an RGB signal including a video signal from a host of a computer system. The RGB signal that the copier of Yamakawa is analyzing is an image that is scanned into the copier. Yamakawa does not suggest receiving the RGB signal from a host.

Further, Yamakawa does not discuss or suggest receiving horizontal and vertical synchronization signals from a host of a computer system. While the Applicants are aware that King does disclose horizontal and vertical synchronization signals, the Applicants respectfully submit that the cited motivation does not suggest combining a multimedia system of King with a color copier that does not appear to receive horizontal and vertical synchronization signals of Yamakawa.

Yamakawa discusses, after a print-out is scanned, reading and analyzing a plurality of points on a frame, such as points 530-533 on the frame generator for point A. The points 530-533 are analyzed in order to determine the exact colors defining the point. When the colors deviate the expected result by more than an allowable range, it can be determined that the image data was not properly read or input and a warning for urging the user to execute the scanning again or repeat the process can be displayed. Yamakawa further discusses that when the image data at the paint portions on the frame is properly read or input, the RGB data is smoothed, and this RGB data is compared with the previous RGB data and the parameters of the CMYK y correction unit 12 are corrected based on the result of the comparison.

First, Yamakawa does not discuss or suggest detecting a minimum pixel level value in a checked region. Yamakawa discusses only detecting a value of the colors of the points 530-533 and comparing this color to an allowable range. Yamakawa does not, however, discuss or suggest that the colors of the points 530-533 are minimum pixel level values.

In contrast, the present specification discusses that a minimum value detector 140 detects a minimum level in a particular region of a selected signal, and discusses that a comparator 220 of the minimum value detector 140 considers the pixel level value in the particular region as being a minimum pixel level value when the pixel level value in the particular region of the selected signal is identical with a predetermined pixel level value. Thus, the present specification particularly clarifies how a minimum pixel level value is detected.

Yamakawa discusses only that the points 530-533 are analyzed to determine whether the colors of these points deviate from an allowable range. Yamakawa does not discuss or suggest a device or comparator that may be used to determine a minimum pixel level value in a checked region of an R, G or B component of an RGB signal.

In addition, the Examiner refers to col. 14, line 36 in alleging that Yamakawa discusses a comparator that compares a minimum pixel level value in a selected R, G B component with a minimum pixel level value detected in a previous signal and extracts a minimum pixel level value. While Yamakawa does discuss comparing RGB data with the previous RBG data and correcting the parameters of the CMYK y correction unit 12 based on the result of the comparison, the Applicants respectfully submit that Yamakawa specifically discusses that such is done after the image data at the paint portions on the frame is properly read or input. The present invention of claim 1, for example, compares the minimum pixel level value with a predetermined threshold value to determine whether an abnormal R, G or B component is present. Thus, as Yamakawa discusses that the RGB data is compared with previous RGB data only after the image data is properly read or input, then Yamakawa clearly does not suggest detecting a minimum pixel level value and comparing the minimum pixel level value with a predetermined threshold value to determine whether an abnormal R, G or B component is present.

Further, while Yamakawa discusses comparing the colors defining the points 530-533 with an allowable range to determine if the colors of these points 530-533 deviate the expected result by more than an allowable range, Yamakawa does not discuss or suggest that a minimum pixel level value is compared with a predetermined threshold value to determine whether an abnormal R, G or B component is present. In particular, Yamakawa only discusses comparing

the color points with an allowable range of color, but does not suggest comparing a minimum pixel level value for a region of an R, G or B component with a predetermined threshold value to determine whether an abnormal R, G or B component is present. Yamakawa does not discuss abnormal R, G or B components, and determining that image data is not properly read or input does not suggest determining whether an abnormal R, G or B component is present.

Further, Yamakawa does not suggest displaying a message indicating whether a selected component includes a video signal abnormally input due to the malfunction of the host. As the copier in Yamakawa does not receive from a host an RGB signal, but merely analyzes an image that is scanned in to the copier itself, then Yamakawa does not suggest displaying an indication of whether a component includes a video signal abnormally input due to the malfunction of the host, when the host is the transmitter of the RGB signal.

Therefore, as the combination of the teachings of King and Yamakawa does not suggest "receiving an R,G,B signal including a video signal, a horizontal synchronization signal and a vertical synchronization signal from a host of the computer system; selecting one of an R, a G, or a B component of the R,G,B signal including the video signal as a selected one R,G, or B component and setting a region of the selected one R,G, or B component as a checked region which is checked; detecting a minimum pixel level value in the checked region; comparing the minimum pixel level value for the selected one R,G, or B component with a predetermined threshold value to determine whether an abnormal R,G, or B component is present, the abnormal R,G, or B component being a component abnormally input due to malfunction of the host; and displaying on a screen a message indicating whether the selected one R,G, or B component includes a video signal abnormally input due to the malfunction of the host," as recited in amended independent claim 1, and as the motivation cited does not suggest combining a multimedia system that includes horizontal and vertical sync signals with a copier that does not appear to include horizontal and vertical sync signals, claim 1 patentably distinguishes over the references relied upon. Accordingly, withdrawal of the §103(a) rejection is respectfully requested.

Further, the combination of the teachings of King and Yamakawa does not suggest "a signal inputting unit receiving R,G,B signals from a host of a computer system including video signals, a horizontal synchronization signal, and a vertical synchronization signal; a minimum value detector detecting a minimum pixel level value in a particular region of a selected one of an R, a G, or a B component input from the signal inputting unit, the selected one R,G, or B component being an R, a G, or a B component of the received R,G,B signals; a controller

comparing the minimum pixel level value with a predetermined value to determine whether the selected one R,G, or B component includes an abnormal video signal caused by malfunction of the host; and a warning message indicating an abnormal state of the selected one R,G, or B component caused by malfunction of the host, as determined by the controller," as recited in amended independent claim 4. Also, the motivation cited does not suggest combining a multimedia system that includes horizontal and vertical sync signals with a copier that does not appear to include horizontal and vertical sync signals. Therefore, claim 4 patentably distinguishes over the references relied upon. Accordingly, withdrawal of the §103(a) rejection is respectfully requested.

Also, the combination of the teachings of King and Yamakawa does not suggest "receiving R,G,B signals including video signals, a horizontal synchronization signal, and a vertical synchronization signal from a host of a computer system; detecting a minimum pixel level value of an R, a G, or a B component selected from the received R,G,B signals, the selected one R,G, or B, component being an R, a G, or a B component of the received R,G,B signals; determining whether the selected one R,G, or B component is abnormally input due to malfunction of the host, based on a comparison between the minimum pixel level value in the selected one R,G, or B component and a predetermined value; and displaying on a screen a message indicating whether the selected one R,G, or B component includes a video signal abnormally input due to the malfunction of the host," as recited in amended independent claim 7. Also, the motivation cited does not suggest combining a multimedia system that includes horizontal and vertical sync signals with a copier that does not appear to include horizontal and vertical sync signals. Therefore, claim 7 patentably distinguishes over the references relied upon. Accordingly, withdrawal of the §103(a) rejection is respectfully requested.

In addition, the combination of the teachings of King and Yamakawa does not suggest "a signal inputting unit receiving R,G,B video signals, a horizontal synchronization signal and a vertical synchronization signal from a host of a computer system; an abnormal state detector detecting an abnormal video signal in an R, a G, or a B component caused by malfunction of the host, the R, a G, or a B component selected from among the received R,G,B signals based on a comparison of a detected pixel level value of the selected one R,G, or B component and a predetermined value, the selected one R,G, or B component being an R, a G, or a B component of the received R,G,B signals; and a warning message indicator indicating whether a video signal abnormally input due to the malfunction of the host is detected," as recited in amended independent claim 11. Also, the motivation cited does not suggest combining a multimedia

system that includes horizontal and vertical sync signals with a copier that does not appear to include horizontal and vertical sync signals. Therefore, claim 11 patentably distinguishes over the references relied upon. Accordingly, withdrawal of the §103(a) rejection is respectfully requested.

The combination of the teachings of King and Yamakawa also does not suggest "receiving an R,G,B signal, a horizontal synchronization signal and a vertical synchronization signal from a host of a computer system; selecting each of an R, a G, and a B component from an R,G,B signal received from a host of a computer system as a selected R,G, and B component and setting a region of the selected R,G, and B component as a checked region; comparing the minimum pixel level value for the selected R,G, and B components with a predetermined threshold value to determine whether an abnormal R,G, and B component is present due to malfunction of the host, the abnormal R,G, or B component being a component abnormally input due to malfunction of the host; and displaying a message on a screen indicating whether the selected R,G, and B component includes a video signal abnormally input due to the malfunction of the host," as recited in amended independent claim 16. Also, the motivation cited does not suggest combining a multimedia system that includes horizontal and vertical sync signals with a copier that does not appear to include horizontal and vertical sync signals. Therefore, claim 16 patentably distinguishes over the references relied upon. Accordingly, withdrawal of the §103(a) rejection is respectfully requested.

Claims 2, 3, 5, 6, 8-10 and 12-15 depend either directly or indirectly from independent claims 1, 4, 7 and 11 and include all the features of their respective independent claims, plus additional features that are not discussed or suggested by the references relied upon. For example, claim 2 recites that "the comparing comprises: setting a flag which indicates whether the selected one R,G, or B component is abnormal when the minimum pixel level value is smaller than a predetermined threshold value, and resetting the flag when the minimum pixel level value is larger than the predetermined threshold value." Therefore, claims 2, 3, 5, 6, 8-10 and 12-15 patentably distinguish over the references relied upon for at least the reasons noted above. Accordingly, withdrawal of the §103(a) rejection is respectfully requested.

Conclusion

In accordance with the foregoing, claims 1, 4, 7, 11 and 16 have been amended. Claims 1-16 are pending and under consideration.

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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